

CLAIMS

Having described our invention, we claim:

1. A machine for dispensing flat objects to a user, comprising:
 - a. a cabinet, having a front, a rear, and a side, capable of containing a plurality of said flat objects in a vertical orientation;
 - b. a dispenser slot opening in said side of said cabinet;
 - c. biasing means tending to push said plurality of flat objects from said rear of said cabinet toward said front of said cabinet;
 - d. at least one drive helix having a helical feed groove, and positioned so that said feed groove engages an edge of the lead carton of said plurality of flat objects and urges it toward said front of said cabinet when said at least one drive helix is rotated;
 - e. an extractor, positioned to engage an edge of said lead carton of said plurality of flat objects and urge it toward said side of said cabinet and through said dispenser slot;
 - f. money accepting means, capable of receiving and counting a specified amount of money; and
 - g. control means, so that when said user deposits said specified amount of money in said machine, said control means causes said at least one drive helix to rotate until said lead carton of said plurality of flat objects is moved past said at least one drive helix, and thereafter said control means causes said extractor to move and push said lead carton of said plurality of flat objects out said dispenser slot, where it can be grasped and removed by said user.

2. A machine as recited in claim 1, wherein said cabinet is provided with a first lock to prevent unauthorized persons from removing said plurality of flat objects from within said cabinet.
3. A machine as recited in claim 2, wherein said money accepting means is provided with a second lock to prevent unauthorized persons from removing money from said money accepting means.
4. A machine as recited in claim 3, wherein said first and second locks are opened by a different key, so that different persons can be given access to said cabinet or said money accepting means.
5. A machine as recited in claim 1, wherein said biasing means comprises a screw drive pushing a pressure plate.
6. A machine as recited in claim 1, further comprising a tray, for holding a lower edge of said lead carton of said plurality of flat objects after it has moved forward past said at least one drive helix in order to guide said lead carton out said dispenser slot.
7. A machine as recited in claim 1, wherein said biasing means and said at least one drive helix are adjustable in position so as to accommodate variations in the size of said plurality of flat objects.

8. A machine as recited in claim 1, further comprising a proximity sensor for detecting when said user has removed said lead carton of said plurality of flat objects from said dispenser slot.
9. A machine as recited in claim 1, wherein:
 - a. said at least one drive helix has a front side and a back side;
 - b. said back side faces a front surface of said lead carton of said plurality of flat objects;
 - c. said back side includes a holding flange, a carton separator, and an entrance stop;
 - d. said carton separator separates said lead carton of said plurality of flat objects from said plurality of flat objects as said at least one drive helix rotates;
 - e. said holding flange holds a next carton in said plurality of flat objects in position until said at least one drive helix has completed one revolution; and
 - f. said entrance stop allows said next carton to advance into the position formerly occupied by said lead carton once said at least one drive helix has completed one revolution.